

REMARKS

In the Office Action of September 8, 2005, claims 1-20 are pending. Claims 9-20 stand allowed. Claim 1 is an independent claim from which claims 2-8 depend therefrom. Applicants recognize the allowability of claims 2 and 7-8 if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Claims 1 and 6 are herein amended. Note that claim 1 is herein amended to include a limitation recited in original claim 6. As such Applicants, respectfully, request that the Amendments be entered since they do not raise new issues that would require further search and/or examination. Applicants believe that independent claim 1 is now in allowable form and thus also believe that claims 2 and 7-8 are allowable as originally drafted.

Claims 1 and 5-6 stand rejected under 35 U.S.C. 102(b) as being anticipated by Sugimoto et al. (U.S. 6,292,753).

Amended claim 1 recites the limitations of determining a brake threat number including determining an approximate deceleration at zero range value. This brake threat number is determined in response to vehicle kinematics and kinematics of an object. A threat of the object is also determined in response to the brake threat number. The deceleration at zero range value allows a minimum amount of brake pressure to be applied while at the same time preventing a collision between the vehicle and the object.

The claimed invention determines the threat posed by an object and quantifies that threat via a break threat number using a deceleration at zero range value. The deceleration at zero range value represents the amount of braking pressure that is to be applied in order to stop the vehicle at zero range, such that there is little to no space between the vehicle and the object of concern. This is stated in paragraph [0045] of the present application.

The Office Action states that Sugimoto discloses the stated limitations and refers to col. 8, lines 25-35 and 46-49 of Sugimoto for such reliance. Applicants, respectfully, traverse.

In col. 8, lines 25-35, Sugimoto states that when the brake pedal 1 is returned, thereby ensuring that the pedal stroke or that the stroke speed is smaller than a predetermined threshold value then the braking operation assisting mode is canceled. Sugimoto also states that the braking force is gradually decreased to zero. In so stating, Sugimoto is describing when the brake assisting mode is canceled and when canceled the system of Sugimoto gradually decreases the amount of applied brake force. There is no discussion, mention, or suggestion in the stated section of determining a deceleration at zero range value. Reducing brake force to zero refers to a gradual release of brake pressure, whereas determining a deceleration at zero range value refers to the determination or calculation of a value or parameter that is used to determine the amount of brake pressure to apply. There is a distinct and clear difference between the stated actions performed by the system of Sugimoto and the recited limitations claimed.

In col. 8, lines 46-49, Sugimoto states that a 0.5G of brake force is preferred during the automatic braking mode and that a maximum deceleration of 1.0G or the maximum applied brake force is 1.0G during the braking operation assisting mode. The disclosure of setting a brake force to be 0.5G or 1.0G for two different modes of operation does not in any way disclose the determination of a deceleration at zero range value. Also, such brake force setting may or may not be performed with the determining of a deceleration at zero range value.

Applicants submit that nowhere in Sugimoto is there any teaching or suggestion of determining a deceleration at zero range value. In Sugimoto a predetermined brake force is applied, which may be approximately 0.5G or 1.0G depending upon the mode of operation. Such a setting of brake force may or may not allow a vehicle to stop such that there is little to no space between the vehicle and an object of concern. The claimed invention allows a vehicle to set an appropriate amount of and/or apply a variable brake pressure in order to stop the vehicle as stated.

In order for a reference to anticipate a claim the reference must teach or suggest each and every element of that claim, see MPEP 2131 and *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628. Thus, since each and every element of claim 1 is not taught or suggested by Sugimoto, Applicants submit that claim 1 is novel, nonobvious, and is in a condition for allowance at least in view of Sugimoto. Also, since claims 5-6 depend from claim 1, they are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

It is not clear from the Office Actions whether claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugimoto in view of Stopczynski or Igaki et al. (U.S. Pub. No. 2002/0101337). It is also not clear from the Office Actions whether the Examiner, if referring to Stopczynski, is referring to U.S. Pat. No. 6,420,996. Applicants assume from the comments in the Office Actions that the Examiner is referring Stopczynski and to U.S. Pat. No. 6,420,996.

Claim 4 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Sugimoto in view of Igaki.

Applicants submit that since claims 3 and 4 depend from claim 1 that they are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

Although the Office Action relies solely on Sugimoto for disclosing the limitations of original claims 1 and 6, Applicants submit that Igaki and Stopczynski, like Sugimoto, also fail to teach or suggest the limitations of determining a brake threat number and a deceleration at zero range value in response to vehicle kinematics and kinematics of an object and determining the threat of the object in response to that brake threat number.

Referring to MPEP 706.02(j) and 2143, to establish a *prima facie* case of obviousness the prior art references must teach or suggest all the claim limitations. Thus, since each and every element of claim 1 is not taught or suggested by Sugimoto and Igaki alone or in combination, Applicants submit that claim 1 is novel, nonobvious, and is in a condition for allowance. Also, since

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claims 3-4 depend from claim 1, they are also novel, nonobvious, and are in a condition for allowance for at least the same reasons.

In light of the amendments and remarks, Applicants submit that all of the rejections are now overcome. The Applicants have added no new matter to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments, the Examiner is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

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